GLAST LAT Project Weekly Report for the week ending February 22, 2001

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*** CALORIMETER (N. Johnson)

CAL Management (Johnson, Acker)

Participation in the Lehman Review at SLAC dominated the management activities.

Discussed agenda and objectives for the CAL review in Paris next week with IPO and Isabelle Grenier.

Created draft Calorimeter Implementation Plan for discussion in Paris.

This period of the year is characterized by every day discussions and meetings, connected to the development plan/schedule, preparation of the Cal review in Paris. (Acker)

Preparation of the budget for year 2001 (all French labs) and meeting with In2p3 authorities to obtain immediate financial support for GLAST activities 2001 before CNES official decisions that will happen later in 2001. (Acker)

CAL CsI Crystal Elements

Yet another final iteration on EM PIN photodiode spec occurred with Hamamatsu. Hamamatsu finally agreed to the specs and promised a quote by Monday, Feb 26. (Phlips)

CsI Crystal Test Stations: (Phlips, Grove)
Custom data acquisition electronics design completed.
Commercial laboratory electronics delivered.
The requirements document for the data acquisition and analysis software is complete, and coding has begun.

Back to the trip from Hamamatsu city, Jacky and Gilles continued conversation with Didier about the PIN diode spec and quality. Jacky was in discussion with Neil and Bernard. Trip report was provided to CAL team. (Bogaert)

Received results from Intespace company for 3M mirror film outgassing. The 3M visible mirror film outgassing satisfies the ESA specs PSS-01-702. Typical values are TML 0.7 %, RML 0.08 %, CVCM 0.01 %, WVR 0.6 %. Discussions with 3M company about the specs of the mirror film. (Acker)

Joint meeting CEA /Polytechnique on glue testing status and results obtained with soft epoxies and silicon elastomeres. (Acker)

Design of CDE bonding industrial test bench started at Collège de France. (Acker)

CAL Pre Electronics Module (Bogaert)

Design of tooling for EM PEM in progress at Polytechnique.

CAL Analog Front End Electronics (Ampe)

Created layout for PIN diode kapton cable for alternative to Hamamatsu design. Getting quotes for fabrication.

CAL Balloon Flight (Johnson)

Worked CAL commanding concepts and interface requirements with flight software team. Dan Wood spent the week at SLAC working on balloon flight commanding and interface software.

CAL Software/Design Verification (Grove, Chekhtman)

The CAL Digi classes have been defined, and the software is undergoing final minor tweaks. The new design is compatible with flight readout data modes.

Grove reviewed the CAL software development schedule with R. Dubois (SLAC).

Work is in progress on converting tb_recon to the Gaudi framework.

Sandora (NRL) is preparing a memo on analysis of GSI beam test data of the BFEM CAL that shows systematic pulse height effects (~5%) in some channels and energy ranges for events closely separated in time.

Analysis of GSI 12C data in standby at Bordeaux CENBG, waiting for Ni data from NRL Benoit Lott initiated a simulation for ion cosmic rays in CsI Cal for calibration purpose in flight using GEANT 3 + Fluka.

A post doc position has been opened at Polytechnique. Sharshar Taher will join the group in April. Taher comes from Egypt, and spent 7 years in Japan. He is an experimentalist with a long experience in detectors.

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*** ANTICOINCIDENCE DETECTOR (Larsen)

ACD Management - The current draft version of the ACD WBS dictionary and schedule has been sent to Margaret Smith (SLAC) at her request in the ongoing iterative process toward baselining. The ACD ETU schedule still must be compressed to have test results available for the CDR and the WBS dictionary must be reviewed by task managers. ACD grassroots cost estimating is underway.
Those able to attend the ACD instrument meeting during our snowstorm (February 22) were briefed on the results of the Lehman review for the ACD. This included listing the PDR deliverables and a request for an assessment on whether the ACD team can meet the current ACD PDR date. Gunther Haller's concerns about documenting ACD Electronic designs were also conveyed. A discussion on the tradeoff of time and resources spent for design versus documentation ensued. It is clear we will need more help to do both.

Detectors - The scintillator tile designs suggested by Pawel De Barbaro, our Lehman subcommittee reviewer, will be assessed by Alex Moiseev.

Electrical - Dave Sheppard has provided the outline for the Level IV Electrical specifications flowdown document. Satpal Singh has some very strong ideas concerning making ACD ASICS process independent and looks forward to discussing this with Gunther Haller.

Mechanical - Tom Johnson continues to work on scintillator tile layout and positioning and is investigating some less complex and more efficient solutions. He will also be developing the Level IV Mechanical specifications flowdown document.

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*** BALLOON FLIGHT (Thompson)

The Lehman reviewers had a number of questions about the balloon flight and noted the competition with the PDR preparations for some key personnel, especially in the software area. The closeout report contained no specific recommendations regarding the balloon flight.

A potential problem was averted this week. Scott Williams found that the on-board power supplies as configured had an oscillation under load. Gary Godfrey was able to find a better filtering scheme that appears to reduce the oscillation to a manageable level. Continued monitoring of all the power supplies will be essential.

Electrical integration of the instrument continues under Gary Godfrey's leadership. Test cables are being made to supply the input power. Coordination with the NRL group (who are making the flight cables) will be important during this assembly and test phase.

At the balloon vrvs conference, Dan Wood and Scott Williams reported that planning and preparation for the data transfer out of the instrument are underway, along with work on the electrical ground support equipment that will be used for commanding and monitoring of the instrument during flight. The bulk of the data will be written to disks on board.

Tony Waite is soliciting opinions about the trigger configurations for the instrument. His plan is to pre-plan four general trigger configurations that can be selected by command. The default configuration will be the full-tower three-in-a-row tracker trigger. We had previously decided that neither the ACD nor the calorimeter will be used in the balloon flight trigger.

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